**Hester -7th Grade Science**

**Unit – Energy and LP**

**Objectives** –

1.Earth is the only planet in our solar system with characteristics necessary to support life. These characteristics include water, an atmosphere, and optimal distance from the Sun. Space flight requires accommodations in order to provide life support in the form of oxygen, removal of carbon dioxide, water, and a source of food.

2. Energy from the Sun is the basis for life on Earth. 3. Ecosystems are comprised all biotic and abiotic factors in an area and the interactions

between them. 4. Energy is constantly cycled through an ecosystem. 5. Energy pyramids illustrate distribution of energy within an ecosystem. 6. Food webs illustrate transfer of energy within an ecosystem. 7. The water, carbon, and nitrogen cycles are responsible for the recycling of biotic

(living) and abiotic (nonliving) components of an ecosystem. 8. Autotrophs (producers) make their own food using water, carbon dioxide, and energy

from the sun in a process called photosynthesis.9. Heterotrophs (consumers) obtain their food by eating producers, other consumers, or both.

10. Plants are producers (autotrophs), and producers are the foundation of all energy pyramids and food webs.

11. Stimuli in the environment can affect a plant’s behavioral and physiological responses. 12. Decomposers play an important role in the recycling of nutrients in an ecosystem. 13. Organisms at different trophic levels within an ecosystem differ in the amounts of

energy required for survival. **Blooms :**

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| Evaluating: can the student justify a stand or decision? |
| Analyzing: can the student distinguish between the different parts? |
| Applying: can the student use the information in a new way? |
| Understanding: can the student explain ideas or concepts? |
| Remembering: can the student recall or remember the information? |
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**Materials/Resources Needed:**

Page of questions for them to choose a topic to write over.

\*Plan a trip to Mars taking into account the length of the trip, life essentials and recycling of waste

\*Simulate predator/prey relationships and analyze the relationships between population sizes.

or

1.Why is exploration of our solar system possible? 2. What features of our solar system make it possible for Earth to sustain life? 3. How does energy from the Sun support life? 4. What factors comprise an ecosystem? 5. How is energy transferred within an ecosystem? 6. How is energy transformed at each trophic level of an ecosystem? 7. How are nutrients recycled in an ecosystem? 8. What role do producers, consumers, and decomposers play in an ecosystem? 9. What is photosynthesis and how is it related to energy transfer in an ecosystem? 10. How do plants respond to environmental stimuli such as presence or absence of

sunlight?

**Anticipatory Set –** none  
**Objective/Purpose -** To check for understanding and see how much the students remember from previous learning  
  
**Prior Knowledge-** Previous Grades and revious TEKS, what we have covered in class up to this point **Model –** None

**Check for Understanding –** by walking around and checking their papers

**Guided Practice** –none

**Closure** –questioning

**Independent Practice** –None

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| **Bloom’s Taxonomy**  New Bloom Triangle Old Bloom Triangle  **New Version Old Version** | |
| **Creating**: can the student create new product or point of view? | assemble, construct, create, design, develop, formulate, write |
| **Evaluating**: can the student justify a stand or decision? | appraise, argue, defend, judge, select, support, value, evaluate, justify |
| **Analyzing**: can the student distinguish between the different parts? | compare, contrast, criticize, differentiate, discriminate, distinguish, examine, experiment, question, test |
| **Applying**: can the student use the information in a new way? | choose, demonstrate, dramatize, employ, illustrate, interpret, operate, schedule, sketch, solve, use, write |
| **Understanding:** can the student explain ideas or concepts? | classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, paraphrase |
| **Remembering:** can the student recall or remember the information? | define, duplicate, list, memorize, recall, repeat, reproduce, state |